

A REVIEW OF THE AMERICAN SPECIES OF SCOMBEROMORUS.

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In the present paper we have given the synonymy of the four American species of the genus *Scomberomorus* Lacépède (= *Cybbium* Cuvier), and an analytical key, by which the species may be distinguished.

The specimens upon which the paper is based, belong to the Museum of the Indiana University. They have been collected by Professor Jordan at Key West, Havana, and Monterey.

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*Analysis of the American Species of Scomberomorus.*

- a. Dorsal spines 17 or 18; lateral line descending obliquely; gill rakers comparatively long, more than half diameter of eye.
- b. Teeth slender, subconical, their length more than twice their width at base; gill rakers long and slender, about  $\frac{3}{5}$  diameter of eye, about 18 below the angle; maxillary reaching to opposite posterior margin of eye. Color of male dark steel-blue, without streaks or spots; female with two rows of alternating round bronze spots of about the size of pupil; fins nearly plain, dark; head  $5\frac{1}{4}$  in length; depth  $5\frac{3}{4}$ . D. XVII-16-VIII; A. I-16-VIII.  
*concolor.* 1.
- bb. Teeth large, triangular, compressed, their length not twice their breadth at base; gill rakers rather slender, their length about  $\frac{3}{5}$  diameter of eye; about 12 below the angle.
- c. Color bluish silvery above, with bright reflections; sides in both sexes, with numerous bronze spots about as large as pupil, no longitudinal stripes; maxillary reaching to opposite posterior part of orbit; angle of preopercle not produced backwards; pectoral scaly at base only; caudal peduncle rather robust, its least depth  $4\frac{2}{3}$  in head, caudal widely forked; head  $4\frac{3}{4}$  in length; depth  $5\frac{1}{2}$ . D. XVIII-18-IX; A. II-17-VIII.  
*maculatus.* 2.

cc. Color silvery; sides with a brownish, broken, longitudinal band, above and below which are numerous brownish spots; angle of preopercle produced backwards; pectorals scaly; anterior part of spinous dorsal black; caudal peduncle rather slender, its least depth  $5\frac{1}{2}$  in head; caudal less widely forked; head  $4\frac{1}{2}$  in length; depth  $5\frac{1}{2}$ . D. XVIII-15-VIII; A. II-15-VIII.

*regalis.* 3

aa. Dorsal spines 14 or 15, lateral line descending abruptly under second dorsal; teeth comparatively large; gill rakers very short, less than  $\frac{1}{3}$  diameter of eye, about 8 below the angle; pectorals scaly at base only; young, with bronze spots; adult immaculate.

*cavalla.* 4.

1. *Scomberomorus concolor.* Monterey Mackerel.

*Chromitra concolor* Lockington, Proc. Acad. Nat. Sci. Phila., 1879, 134 (Monterey); Lockington, Rep. Cal. Fish Comm. (1878-9), 1881, 34 (Monterey).

*Scomberomorus concolor* Jordan & Gilbert, Proc. U. S. Nat. Mus., 1880, 456 (Monterey, no description); Jordan and Jouy, Proc. U. S. Nat. Mus., 4, 1881, 13 (Soquel, Cal., no description); Jordan and Gilbert, Proc. U. S. Nat. Mus., 1881, 45 (Monterey Bay); Jordan and Gilbert, Syn. Fish. N. A., 1882, 426.

*Habitat.*—Pacific Coast of United States; Monterey Bay, all the known specimens having been taken about Soquel and Santa Cruz, whither it resorts every summer for a short time, for the purpose of spawning. Some 15 to 40 specimens only are taken each year.

2. *Scomberomorus maculatus.* Spanish Mackerel.

*Scomber maculatus* Mitchell, Trans. Lit. and Phil. Soc., i, 1815, 426, pl. 6, f. 8 (New York).

*Cybiium maculatum* Cuvier, Règ. Anim., ed. 2, 1829 (after Mitchell); Agassiz, Spix. Pisc. Brazil, 1829, p. 103, tab. 60 (Atlantic); Cuvier and Valenciennes, Hist. Nat. Poiss., viii, 1831, 181 (New York); Storer, Bost. Jour., iv, 1842, 179 (Lynn, Mass.); Ayres, Bost. Jour. Nat. Hist., iv, 1842, 261 (Brookhaven); De Kay, N. Y. Fauna, Fish, 1842, 103, pl. 73, f. 232 (Long Island); Storer, Synopsis, 1846, 92; Baird, Fish N. J. Coast, 1855, 21 (Beasley's Point); Günther, Cat. Fish. Brit. Mus., ii, 1860, 372; Storer, Hist. Fish. Mass., 1867, 68, pl. 13, f. 1 (Lynn, Mass.; Provincetown); Gill, Rept. U. S. Fish Comm., 1871-72, 802 (name only); Baird, Rept. U. S. Fish Comm., 1871-72, 825 (Wood's Holl), no description; Gill, Cat. Fish. E.

Coast N. A., 1873, 24 (name only); Poey, Proc. U. S. Nat. Mus., 1878, 4 (after Cuvier and Valenciennes); Jordan and Gilbert, Proc. U. S. Nat. Mus., 1878, 375 (Albermarle Sound); Goode, Proc. U. S. Nat. Mus., 1879, 3 (East, Florida), no description; Goode and Bean, Proc. U. S. Nat. Mus., 1879, 128 (Pensacola); Goode and Bean, Fish. Essex Co., Mass., 1879, 15 (no description); Bean, Proc. U. S. Nat. Mus., 1880, 89 (Washington Market), no description.

*Scomberomorus maculatus* Jordan & Gilbert, Bull. U. S. Fish Comm., 1882, 106 (Mazatlan, no description); Jordan and Gilbert, Bull. U. S. Fish Comm., 1882, 110 (Panama, no description); Jordan and Gilbert, Syn. Fish. N. A., 1882, 426; Goode and Bean, Proc. U. S. Nat. Mus., 1882, 237 (Gulf of Mexico, no description); Jordan and Gilbert, Proc. U. S. Nat. Mus., 1882, 268 (Pensacola, no description); Jordan and Gilbert, Proc. U. S. Nat. Mus., 1882, 594 (Charleston, no description); Jordan and Gilbert, Proc. U. S. Nat. Mus., 1882, 625 (Panama, no description); Bean, Cat. Fish. Exhibition, London, 1883, 51 (Charlotte Harbor, Fla., no description).

*Habitat*.—Both coasts of America; from Lynn, Mass., to Key West; Mazatlan; Panama. Not recorded from Cuba or any of the lesser Antilles.

### 3. *Scomberomorus regalis*. Pintado.

*Scomber regalis* Bloch, Ausl. Fische, 1795, Taf. 335 (after a drawing by Plumier); Bloch and Schneider, Systema. Nat., 1801, 22 (after Bloch).

*Cybius regale* Cuvier, Règne Animal, ed. ii, 1829 (name only; after Bloch); Cuvier and Valenciennes, Hist. Nat. Poiss., viii, 1831, 184 (San Domingo); Poey, Syn. Pisc. Cub., ii, 1868, 326 (Cuba); Gill, Rept. U. S. Fish Comm., 1871-72, 802 (name only); Baird, Rept. U. S. Fish Comm., 1871-72, 825 (Wood's Holl; no description); Gill, Cat. Fish East Coast N. A., 1873, 24 (name only); Poey, Proc. U. S. Nat. Mus., 1878, 4 (Cuba); Goode, Proc. U. S. Nat. Mus., 1879, 3 (East Florida, no description).

*Scomberomorus regalis* Goode and Bean, Proc. U. S. Nat. Mus., 1882, 237; Jordan and Gilbert, Syn. Fish. N. A., 1882, 426.

*Scomberomorus plumieri*, Lacépède, iii, 1801, 292 (after Aubriet's copy of Plumier's drawing).

*Cybius acerrum* Cuvier & Valenciennes, Hist. Nat. Poiss., viii, 1831, 186 (in part; type); Poey, Repertorio, i, 1867, 322; ii, 13 (Cuba); Poey, Proc. U. S. Nat. Mus., 1878, 4 (no description).

*Habitat*.—Atlantic Coast of America; Wood's Holl, Mass.; Key West; Cuba; San Domingo. More abundant southward; rare north of Key West.

4. *Scomberomorus cavalla*.

*Guarapucu* Maregrave, Hist. Brasil. 1648, 178 (Brazil).

*Cybium cavalla* Cuvier, Règne Animal, 1829, ed. 2d (after Maregrave).

*Cybium caballa* Cuvier & Valenciennes, Hist. Nat. Poiss., viii, 1831, 187 (Brazil); Günther, Cat. Fish. Brit. Mus., 1860, 373 (San Domingo); Poey, Report, i, 1867, 322; ii, 13 (Cuba); Guichenot, Sagra, Hist. Cuba Poiss., 1850, 103 (Cuba); Poey, Proc. U. S. Nat. Mus., 1879, 3 (East Florida; no description); Poey, Bull. U. S. Fish Comm., 1882, 118 (no description).

*Scomberomorus caballa* Goode & Bean, Proc. U. S. Nat. Mus., 1882, 237 (no description); Jordan and Gilbert, Proc. U. S. Nat. Mus., 1882, 268 (Pensacola); Jordan and Gilbert, Proc. U. S. Nat. Mus., 1882, 549 (Charleston; no description); Jordan and Gilbert, Syn. Fish., 1882, 427 (copied).

*Habitat*.—Atlantic Coast of America; Charleston; Brazil. A food fish of great importance in the West Indies and Southern Florida. It reaches a much larger size than any other.

The name *cavalla*, first used by Cuvier, has priority over *caballa*.